7. (Amended) A method of making a package, comprising:

incorporating an authenticating agent into a component of the package as an in situ product marker, wherein the authenticating agent is a substance that forms detectable free radicals when exposed to ionizing radiation, said authenticating agent being present in a manner such that the free radicals provide a characteristic spectral response when subjected to a spectroscopic analysis capable of detecting free radicals in order to allow authentication of the package from said spectral response.

13. (Amended) The method of claim 21, wherein the spectroscopically analyzing comprises electron spin resonance spectroscopy.

14. (Amended) The method of claim 21, wherein the given effective amount of radiation comprises at least one of gamma radiation, electron beam radiation, corona discharge, plasma discharge, X-rays and microwave energy.

15. (Amended) The method of claim 21, wherein at least one of the one or more authenticating agents comprises alanine.

17. (Amended) The method of claim 22, wherein the given effective amount of radiation comprises at least one of gamma radiation, electron beam radiation, corona discharge, plasma discharge, X-rays and microwave energy.

18. (Amended) The method of claim 22, wherein the spectroscopically analyzing comprises electron spin resonance spectroscopy.

19. (Amended) The method of claim 22, wherein at least one of the one or more authenticating agents comprises at least one of an amino acid, a sugar, and an amine salt of an organic acid.

20. (Amended) The method of claim 22, wherein at least one of the one or more authenticating agents comprises alanine.

Please add new claims 21-37 as follows:

21. (New) A method of authenticating a package comprising:

providing a package incorporating a given amount of one or more authenticating agents that upon exposure to a given effective dosage of radiation is capable of forming detectable free radicals having a characteristic spectral response;

exposing at least a portion of a package to be authenticated to the given effective dosage of radiation;

spectroscopically analyzing the irradiated package portion to obtain a spectral response for the irradiated package portion; and

comparing the spectral response for the irradiated package portion to the characteristic spectral response to determine whether the package to be authenticated is authentic.

22. (New) A method of authenticating a package comprising:

providing a package incorporating a given amount of one or more authenticating agents that upon exposure to a given effective dosage of radiation is capable of forming detectable free radicals having a characteristic spectral response;

exposing a representative reference sample of the package incorporating the authenticating agent to the given effective amount of radiation;

spectroscopically analyzing the irradiated representative sample to obtain a spectral response for the irradiated representative sample;

exposing at least a portion of a package to be authenticated to the given effective dosage of radiation;

spectroscopically analyzing the irradiated package portion to obtain a spectral response for the irradiated package portion; and

comparing the spectral response for the irradiated package portion to the spectral response for the irradiated representative sample to determine whether the package to be authenticated is authentic.

23. (New) The method of claim 22 wherein at least one of the one or more authenticating agents comprises an amino acid.

24. (New) The method of claim 22 wherein at least one of the one or more authenticating agents comprises a sugar.

25. (New) The method of claim 22 wherein at least one of the one or more authenticating agents comprises an amine salt of an organic acid.

26. (New) The method of claim 22 wherein the package comprises a food product, and the one or more authenticating agents are incorporated in the food product.

27. (New) The method of claim 22 wherein the package comprises a polymeric film having at least one layer comprising ethylene homopolymer and at least one of the one or more authenticating agents is incorporated in the at least one layer.

28. (New) The method of claim 22 wherein the package comprises a polymeric film having at least one layer comprising ethylene/C_3-C_{20} alpha-olefin copolymer and at least one of the one or more authenticating agents is incorporated in the at least one layer.

29. (New) The method of claim 22 wherein the package comprises a polymeric film having at least one layer comprising ethylene/vinyl alcohol copolymer and at least one of the one or more authenticating agents is incorporated in the at least one layer.

30. (New) The method of claim 22 wherein the package comprises a polymeric film having at least one layer comprising ethylene/(meth)acrylic acid copolymer and at least one of the one or more authenticating agents is incorporated in the at least one layer.

31. (New) The method of claim 22 wherein the package comprises a polymeric film having at least one layer comprising ethylene/C_1-C_{20} ester of (meth)acrylic acid copolymer and at least one of the one or more authenticating agents is incorporated in the at least one layer.

32. (New) The method of claim 22 wherein the package comprises a polymeric film having at least one layer comprising ethylene/vinyl-acetate-copolymer and at least one of the one or more authenticating agents is incorporated in the at least one layer.

33. (New) The method of claim 22 wherein the package comprises a polymeric film having at least one layer comprising polyamide and at least one of the one or more authenticating agents is incorporated in the at least one layer.

34. (New) The method of claim 22, wherein the package comprises a polymeric film having at least one layer comprising ionomer and at least one of the one or more authenticating agents is incorporated in the at least one layer.

35. (New) The method of claim 22, wherein the package comprises a substance selected from the group consisting of paperboard, chipboard, and cardboard, and at least one of the one or more authenticating agents is incorporated in the substance.

36. (New) The method of claim 22 wherein the package comprises a packaging material and the one or more authenticating agents are present in an amount ranging from about 100 ppm to about 5 weight percent based on the weight of the packaging material.

37. (New) The method of claim 22 wherein the package comprises a hot blown film and at least one of the one or more dosimetric agents is incorporated in the hot blown film.